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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/991,900

Filing Date: November 23, 2001

Appellant(s): GOKHALE ET AL.

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Joseph F. Brennan  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on January 19, 2010 appealing from the Office action mailed on May 18, 2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,764,972	Crouse et al.	Jun. 09, 1998
6,330,572	Sitka et al.	Dec. 11, 2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crouse et al. (U.S. Patent No. 5,764,972) in view of Sitka (U.S. Patent No. 6,330,572).

As to claim 12, Crouse et al. [hereinafter referred as Crouse] disclosed a system [Abstract, Fig. 2] for processing file input/output commands of one or more removable media from a storage device [e.g., Fig. 9 and associated texts], the system comprising:

a) a user interface [e.g., the network file interface (34) running on user node (10), Fig. 2] for receiving input/output identification data including the data to identify one or more media [e.g., the receiving of unique identification data (e.g., Units: 140, 142, 144, etc. Fig. 7 & col. 14, line 47 – col. 16, line 5) including the data to identify one or more media from a control file program in the archival file system as shown in Fig(s). 7- 9 and associated texts. Wherein the received unique identification data such as media type, volume serial Name, location and access attributes set by a user in the file control program of the archiving file system in accordance with the media migration scheduled attributes (e.g., site-defined time intervals or direct user intervention at col. 15, lines 21-24) can be used for I/O operations such as the Dispatch module (unit: 150, Fig. 9) processing in the file control program of an archiving file system as shown in Fig. 9 and col. 16, lines 50 – col. 17, line 12; or the Removable Media Module processing section of Fig. 9; or the Unload media processing (492, Fig. 16e and associated texts)].

b) a data file stored in a memory device for storing the export identification data [e.g., the Removable Media Reserved File 194, Fig. 9; col. 19, lines 37-51] ;

c) a task control subsystem [e.g. the AFS Control Program (40), Fig. 2] for retrieving [e.g. via the Scan module 192, Fig. 9] the export identification data from the data file [e.g., the received unique identification data (e.g., Units: 140, 142, 144, etc. Fig.

7 & col. 14, line 47 – col. 16, line 5) and controlling the library (e.g., the storage library at col. 20, lines 33-34) to cause the export of the selected media [e.g., the RM module (unit: 182) in Fig. 9 processing and associate texts specifically col. 19, lines 24 – col. 21, lines 63].

Crouse did not specifically disclose the file input/output commands including an exporting command.

However, Sitka disclosed a data storage system to automatically scheduling an import and export I/O commands for removable devices [e.g., Title, Abstract, the Directed Storage Management (DSM) system 10, Fig. 1 and associated texts, col. 9, lines 5 – 56; col. 10, lines 1 – 40, col. 17, lines 31 – col. 19, lines 6].

Crouse and Sitka are analogous art and both in the common field to process storage file input/output operations via common program interfaces [e.g., Crouse: the AFS network user interfaces (units: 22, 10, etc., Fig. 2); Sitka: DSM network client interfaces (units: 66, 68, etc., Fig. 7)], therefore, with the teachings of Crouse and Sitka in front of him/her, an ordinary skilled person in the art at the time the invention was made would have been motivated to modify Crouse's user interface with the import and export commands as disclosed by Sitka, because by doing so, the combined system will facilitate a system user to schedule the import or export operation with ease.

As to claims 13-14, except all the above, the combined system further disclosed that the user interface is configured to allow a user to specify one or more media to be exported by one or more respective media identifiers/criteria [e.g., Crouse: col. 15, lines 3-49] and store the specified media identifier/criteria [e.g., Crouse: col. 19, lines 37-51].

As to claim 15, except all the above, the combined system further disclosed that the task control subsystem comprises an evaluator [e.g., Crouse: the AR module 184, Fig. 9] to evaluate the stored criteria to determine which one or more media in the library satisfy the specified one or more criteria [Crouse: col. 22, lines 8-27].

As to claim 16, except all the above, the combined system further disclosed that system having an export history data file which containing a field associated with each media indicating the status of the export of the media [e.g. Crouse: the Archive Status field of the table between col. 21- col. 22],

As to claim 17, the combined system further disclosed that the user interface is configured to allow a user to specify a specific event following which the media is to be exported [e.g., if the system user specifies the life span for a remote file, once the life span is exhausted, the file is eligible for termination when the media space is needed [e.g., Crouse: Fig. 14d, col. 22, lines 55-64].

As to claims 1-11 and 18-20, these claims recited similar features as cited in claims 12-17, in form of method or computer readable medium, hence are rejected for the same reason.

**(10) Response to Argument**

**The Applicant's Invention:**

A system has method for scheduling an export of one or more removable media from a storage device.

The examiner disagrees with appellant's piece meal interpretations of U.S. Patent No. 5, 644,972 issued to Crouse et al. & U.S. Patent No. 6,330,572 issued to Sitka and spurious arguments against the prior art.

Appellant mainly argued that neither Crouse nor Sitka disclose or suggest the claimed scheduling "at a first time, receiving export identification data comprising first data identifying one or more removable media from the storage device to be exported and second data identifying a second time at which the one or more removable media is scheduled to be exported; and at the second time, using the stored export identification data to select one or more removable media to be exported to export the selected media from the storage device library."

In response to above arguments, the examiner first noted that applicant did not clearly specify the values of the claimed first and second time frame and the metes and bounds of the claimed storage library. As such, they are open for reasonable art interpretation.

Further, Crouse clearly disclosed the claimed limitations recited as following:

a) at a first time, receiving export identification data comprising first data identifying one or more removable media from the storage device to be exported and second data identifying a second time at which the one or more removable media is scheduled to be exported second data identifying a second time at which the one or more removable media is scheduled to be exported [e.g., the AFS Control Program (e.g., unit: 40, Fig. 2) includes a user interface (e.g., the network file interface unit: 34, Fig. 2) running on user node (unit: 10, Fig. 2) which receives the claimed first data identifying one or more media (e.g., the unique sets of identification data including: media type, volume serial Name, location, access attributes, media migration attributes, etc. as specified in the Units: 140, 142, 144, etc. Fig. 7 & col. 14, lines 47 – col. 16, lines 21) from the storage device (e.g., the on-line storage device 46, Fig. 2) to be exported by one of the control programs, for example, the media dispatch module (e.g., the unit: 150, Fig. 9) in the AFS system (e.g., unit: 40, Fig. 2, col. 14, lines 52 – col. 17, line 12), or the Removable Media (RM) Module processing section of Fig. 9 and col. 19, lines 24 – col. 20, lines 63; etc.), wherein the claimed scheduled first time and second time are met by the site-defined time intervals or by the direct operator intervention in

accordance with the file migration attributes such as a remote file life span times at col. 15, lines 18 – 24 & ]; and

b) storing the export identification data in a data file [e.g., the stored Removable Media Reserved File 194, Fig. 9; col. 19, lines 37-51]; and  
c) at the second time, using the stored export identification data to select the one of more removable media to be exported to export the selected media from the storage device library [e.g., the sub-control module -- the RM module (unit: 182) in Fig. 9 processing and associate texts specifically col. 19, lines 24 – col. 20, lines 63].

In addition, Sitka also disclosed the claimed removable storage files import/export processes over a hierarchical/direct storage management system [e.g., Fig. 1 and associated texts] based on a plurality of stored files scheduled migration policies that were recorded below:

"A **migration policy** may (a) **enable migration**, in which case lowest level stores would not enable migration; (b) specify migration low and high watermarks; (c) specify the store to which files should be copied when the present store reaches some capacity threshold; (d) specify migration ranking criteria, such as oldest, least recently used, size, combination of age and size, (e) specify use of fileset migration, and allow the user to choose different levels of adherence to this policy; and (f) set a **migration time window**, i.e., a period of time in which to carry out the migration.

"A **deletion policy** may (a) **enable automatic deletion**, which typically would not be enabled for lowest level store; (b) specify stores on which copies must exist before a file is deleted from this store; (c) **specify deletion from the original store immediately upon**

**migration to the new store;** (d) **set a suggested minimum age** at which **to delete a file;** (e) **set a suggested maximum age** at which **to delete a file**, in which case the file may be deleted even if space is not needed; (f) specify marking of deleted files as obsolete without deletion, enabling recovery of a deleted file; (g) specify marking of overwritten files as obsolete without deletion, enabling recovery of any version of a file; (h) set a maximum time to retain an obsolete file beyond deletion (obsolescence); and (i) **set a maximum time to retain any file beyond last reference.** A reload policy may (a) require reloading of an entire files set when a file is reloaded; and (b) specify a maximum total size of files in a files set to reload."

"Among the policies dealing with media and volumes, a chunking policy may: (a) allow chunking files on the given store although some users may choose to disallow splitting of files across volumes; in this case, files larger than the size of one volume would be rejected; and (b) set a minimum chunk size to prevent a proliferation of small chunks, which may not apply to a final chunk. A **volume selection policy** may specify that the selected volume will be (a) the first available; (b) the best fit in terms of storage space or other characteristics; (c) the most recently written to keep files in more or less chronologically ordered on media; (d) the least recently used to keep volumes cycled through drives and spread new files across media for concurrent retrieval; (e) a round robin format in which volumes are cycled through the drives; and (f) with the most current file in the same files set or any file in the files set."

"A **drive selection policy** may specify that files be stored (a) on a drive that is the first available; or (b) to balance usage among drives. A shelf management policy may (a) enable shelf management for the given

store although shelf management for intermediate stores may not be desired; (b) use Free Store from which new volumes can be drawn; (c) **set a tape retention interval**; (d) **set a maximum media age according to which the system will copy to new media and scrap old media when the age is exceeded**; (e) set a maximum mount count by which the system will copy to new media and scrap old media when the count is exceeded; (f) set a tape compaction threshold specifying the minimum bytes to try to recover; (g) specify merging files in a fileset onto media or, alternatively, only upon migration; (h) set a shelf management time interval that specifies a best time to compact and retension tapes and merge filesets; and (i) **specify import/export volumes and notify caller when an offline file is accessed.**"

"To implement the various policy categories described above, **DSM system 10 makes use of a set of policy algorithms**. When **DSM system 10 receives a new store-file request from an Endpoint Client**, for example, it will store the file in the Store specified in the request if one is specified. If no Store is specified, DSM chooses the Default Store for the User's Active Group. Typically, this will be a direct-access storage device, such as a RAID disk. In any case, exactly one Store is chosen. Whenever the size of the file to be stored exceeds the non-zero FileBypassSize attribute of the selected store, then the store specified in the FileBypassStore attribute is selected instead. If no store is selected because the file size exceeds all non-zero FileBypassSize values, then the store fails, it is logged, and the requester is notified."

"When a Store is selected, file manager 58 creates a new File object in the Store and schedules a file copy from the Client Endpoint to the Store. Whenever a copy is scheduled, the destination Store is added to the

**File's vsScheduled attribute. Whenever a copy completes, the destination Store is removed from vsScheduled and added to vsResidence for that file. Also, when a copy completes, the File's vsHeld is updated to indicate whether or not this file is a candidate for deletion (primarily whether it has been migrated), and the Store's BytesHeld property is updated accordingly.” (col. 17, lines 31 – col. 19, lines 6)**

As set forth above, because Crouse and Sitka are of analogous art to process file import/exports operations via a common interface [e.g., Crouse: the AFS network user interfaces (units: 22, 10, etc., Fig. 2); Sitka: DSM network client interfaces (units: 66, 68, etc., Fig. 7)] for removable storage devices via stored identifications over scheduled time attributes of the import/exports files, therefore, in light of the prior art, an ordinary skilled artisan at the time the inventions was made is deemed to be motivated to edit the common interface of Crouse with the import/export commands techniques as taught by Sitka, such that the combined inventions of Crouse and Sitka are deemed to be a *prima facie* obvious in view of the claimed limitations.

As set forth above and on record, since the examiner has analyzed and mapped each of the claimed subject matters in the prior art that has clearly disclosed, suggested, and motivated an ordinary skilled artisan to combine the limitations as claimed by appellant, thereby, in contrary to appellant's arguments, the examiner has fulfilled the KSR requirements set by MPEP § 2143.

Thus, based on the discussion above, because applicant does not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections. The examiner concludes that the prior art read on the claimed features.

**(11) Related Proceeding(s) Appendix**

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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